

# NOTES ON THE ECOLOGY AND NATURAL HISTORY OF *CTENOPHORUS CAUDICINCTUS* (AGAMIDAE) IN WESTERN AUSTRALIA

By ERIC R. PIANKA  
Integrative Biology  
University of Texas at Austin  
Austin, Texas 78712 USA  
Email: erp@austin.utexas.edu

## ABSTRACT

Ecological data on the saxicolous agamid *Ctenophorus caudicinctus* are presented. These lizards never stray far from rocks. They forage on the ground but retreat to rock crevices when threatened. Most were above ground (mean = 83 cm, N = 41). Active early and late in the day during summer, they thermoregulate actively with an average body temperature of 37.2°C. They are dietary specialists eating mostly termites and ants, but also some vegetation. Clutch size varies from 3 to 7, averaging 5.36. Males are slightly larger than females.

## INTRODUCTION

*Ctenophorus caudicinctus* is widespread in northern Western Australia, the Northern Territory and eastern Queensland (Cogger 2000, Storr 1967). During 1966–1968, we sampled a population of these agamids on rock outcrops at a granitic tor area 71 km South of Wiluna on the west side of the road to Sandstone (Lat. 27° 05' x Long. 119° 37'). *Ctenophorus caudicinctus* was far and away the most abundant species. Other lizard species found at this site included *Ctenophorus nuchalis*, *Ctenotus leonhardii*, *Ctenotus schomburgkii*, *Egernia depressa*, *Egernia formosa*, *Gehyra variegata*, *Diplodactylus pulcher*, *Menetia greyi*,

*Strophurus wellingtonae*, *Rhynchoedura ornata* and *Varanus giganteus*. These data were augmented with *Ctenophorus caudicinctus* from a few other localities.

## METHODS

We recorded air and body temperatures, activity time, microhabitat, fresh snout-vent length (SVL), tail length, and weight for as many lizards as possible. Stomach contents were identified and prey volumes estimated for all lizards collected. Dietary niche breadth was calculated using the inverse of Simpson's (1949) index of



**Figure 1.** *Ctenophorus caudicinctus* in typical posture surveying its kingdom from the top of a rock.

diversity [ $D = 1/ \sum p_i^2$ ] where  $p_i$  is the proportion of prey category  $i$ .

## RESULTS

**Habitat and Microhabitats.** *Ctenophorus caudicinctus* are found in rocky habitats, often basking well above ground (mean height 83 cm,  $N = 41$ ). They leave these elevated perches to forage on the ground, but when threatened, they rapidly climb rocks and retreat into crevices.

**Thermal Relations.** *Ctenophorus caudicinctus* are active early and late in the day during summer (Figure 2). These lizards are active thermoregulators: body tempera-

tures are positively correlated with ambient air temperatures (Figure 3). Average body temperature of 68 active individuals was 37.2°C.

**Diet.** Although *Ctenophorus caudicinctus* consumes many different kinds of arthropods, it is a dietary specialist eating mostly termites (64% by volume) and ants (20%). Some vegetative material is eaten (7.2%). Its dietary niche breadth is 2.19 (Table 1).

**Reproduction.** Of 14 gravid females collected in January, clutches varied from 3 to 7 eggs (mean = 5.36). Average snout vent length (SVL) of these adult

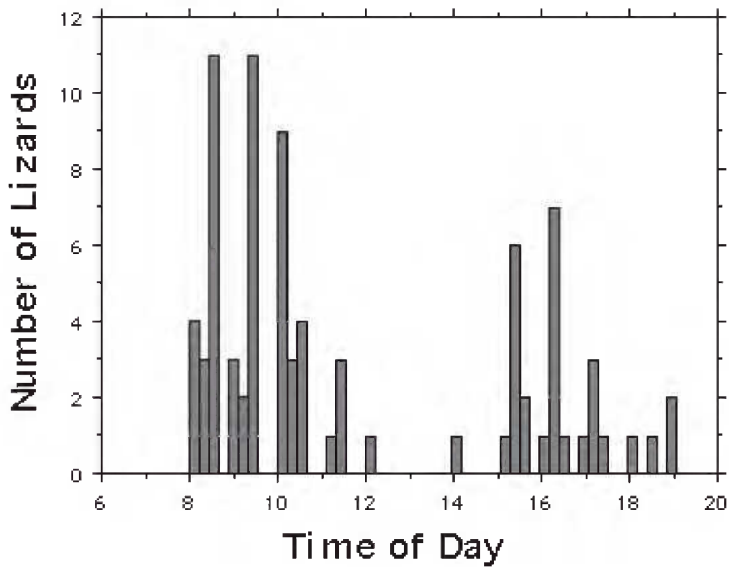


Figure 2. During summer, *Ctenophorus caudicinctus* are active early and late in the day.

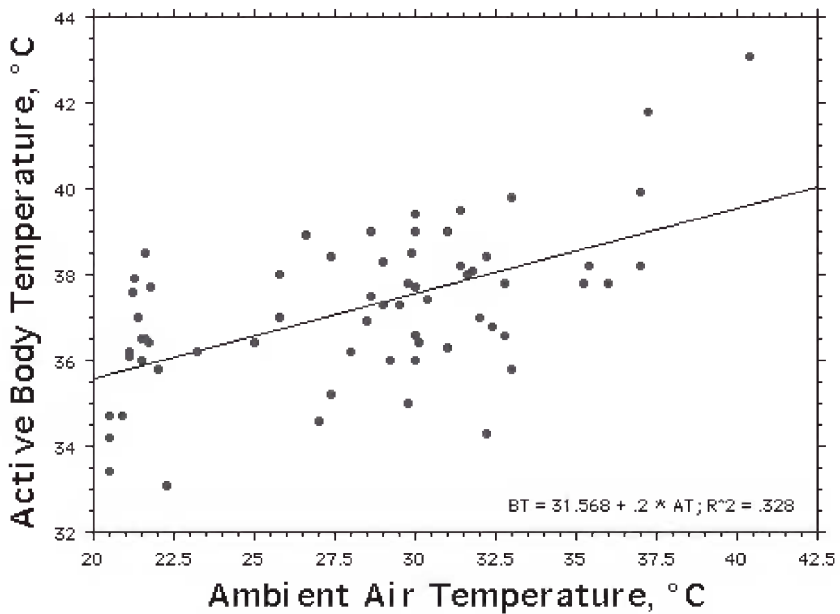


Figure 3. Body temperatures plotted against ambient air temperature for 68 active *Ctenophorus caudicinctus*.

Table 1. Summary of stomach contents of 73 *Ctenophorus caudicinctus*.

Prey Category	Number	Number %	Volume	Volume %
Aranae	1	0.04	0.01	0.03
Scorpions	1	0.04	0.05	
Ants	351	14.70	7.63	20.07
Wasps	9	0.38	0.52	1.37
Locustids	6	0.25	0.39	1.03
Blattids	1	0.04	0.04	0.11
Coleoptera	28	1.17	1.11	2.92
Isoptera	1939	81.23	24.33	63.99
Hemiptera	4	0.17	0.18	0.47
Diptera	1	0.04	0.06	0.16
Lepidoptera	1	0.04	0.06	0.16
Larvae	6	0.25	0.11	0.29
Other Insects	5	0.21	0.28	0.74
Vertebrates	2	0.08	0.16	0.42
Vegetative	23	0.96	2.73	7.18
Other	4	0.17	0.22	0.58
UnID	6	0.25	0.17	0.45
	2388	100	38.02	100

females was 62.7 mm, and their average weight was 10.2 g (N=14). Adult males are larger, averaging 69.5 mm in SVL and weighing 12.5 g (Ns=33 and 31). One hatchling measured 22 mm SVL.

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